On the isomorphism problem of the ring of monomial representations

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The *ring of monomial representations* $D(G)$ of a finite group G is a generalization of the classical Burnside ring $B(G)$. In this context two natural questions arise: Is G determined by $D(G)$? Which properties of G are determined by $D(G)$? Contrary to the case of the Burnside ring the second problem is still open.

Associated to the Burnside ring is the table of marks. There is an analogue of the table of marks for the ring $D(G)$ called the *species* of G for which there is a separate isomorphism problem: Does the species of G determine G? Which properties of G are determined by the species of G?

In this talk I will give a brief overview over the known facts to both questions and present some new results in particular for p - groups.